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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/729,009

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Naoki Matsuda

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7590

10/05/2006

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EXAMINER

GELLNER, JEFFREY L

ART UNIT

PAPER NUMBER

3643

DATE MAILED: 10/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/729,009

Applicant(s)

MATSUDA ET AL.

Examiner

Jeffrey L. Gellner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-7 and 10 is/are rejected.
- 7) ☐ Claim(s) 2, 8, 9, 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Upon reconsideration the requirement for election of species in the office action paper no. 03032006 is withdrawn.

Claim Objections

Claims 1, 4, 5, 6, and 8-11 are objected to because of the following informalities:

In claim 1, line 4, "the transfer charge" should probably be --the at least one transfer charge-- to conform with the language immediately preceding "the transfer charge."

In claim 4, line 2, "a gas generating agent" should be --the gas generating agent-- to conform with the language of col. 1, line 6.

In claims 5, 6, and 8-11, line 2 in each claim, "the gas generating agent molded article" should probably be --the molded articles of a gas generating agent-- to conform with the language of claim 1, line 5.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 4 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for guanidine nitrate and basic copper nitrate, does not reasonably provide enablement for all possible gas generating agents that have a combustion temperature of 1000 to 1700 C. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention that is commensurate in scope with these claims. That is, a third party could not determine which gas generating agents have a combustion temperature of 1000 to 1700 C without undue experimentation.

Claim 5 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for molded articles of a gas generating agent of nitroguanidine, strontium nitrate, and carboxymethyl cellulose sodium salts, does not reasonably provide enablement for all possible compositions that have a combustion temperature of 1000 to 3000 C. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention that is commensurate in scope with these claims. That is, a third party could not determine which compositions of molded articles of gas generating agents have a combustion temperature of 1000 to 3000 C without undue experimentation.

Claim 6 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for molded articles of a gas generating agent of nitroguanidine, strontium nitrate, and carboxymethyl cellulose sodium salts, does not reasonably provide enablement for all possible compositions that have a combustion temperature of 1700 to 3000 C. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention that is commensurate in scope with these claims. That is, a

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third party could not determine which compositions of molded articles of gas generating agents have a combustion temperature of 1000 to 3000 C without undue experimentation.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being obvious over Ogawa et al. (US 6,860,510 B2) in view of Taylor et al. (US 2003/0145922 A1).

The applied reference, US 6,860,510 B2, is assumed to have a common assignment with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might

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also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(I)(1) and § 706.02(I)(2).

As to claims 1 and 3, Ogawa et al. disclose a gas generator for an air bag comprising a housing (102 of Fig. 1a) with a gas discharge hole (152 of Fig. 1a); an ignition means (112 and 119 of Fig. 1a) including at least one igniter (112 of Fig. 1a) and at least one transfer charge (119 of Fig. 1a); and a combustion chamber (130 of Fig. 1a). Not disclosed is the at least one transfer charge being a mixture of transfer charge powder and molded articles of a gas generating agent. Taylor et al., however, discloses a transfer charge being a mixture of transfer charge powder ("boron" and "potassium nitrate" of para. 0052) and molded articles of a gas generating agent ("guanidine nitrate" of para. 0052). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the air bag of Ogawa et al. by using the transfer charge of Taylor et al. so as to the formation of incomplete products of combustion (see Taylor et al. at para. 0022).

Claims 1, 3, 5, 6, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taguchi et al. (US 6,485,051 B1) in view of Taylor et al. (US 2003/0145922 A1).

As to claims 1 and 3, Taguchi et al. disclose a gas generator for an air bag comprising a housing (1 of Fig. 1) with a gas discharge hole (12a of Fig. 1); an ignition means (8 and 9 of Fig. 1) including at least one igniter (in 8 of Fig. 1 from col. 11, lines 23-26) and at least one transfer charge (27B of Fig. 1); and a combustion chamber (3 and 4 of Fig. 1). Not disclosed is the at least one transfer charge being a mixture of transfer charge powder and molded articles of a gas generating agent. Taylor et al., however, discloses a transfer charge being a mixture of transfer

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charge powder (“boron” and “potassium nitrate” of para. 0052) and molded articles of a gas generating agent (“guanidine nitrate” of para. 0052). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the air bag of Taguchi et al. by using the transfer charge of Taylor et al. so as to the formation of incomplete products of combustion (see Taylor et al. at para. 0022).

As to claims 5 and 6, the limitations of claims 1 and 2 are disclosed as described above. Not disclosed is the combustion temperature of molded articles of a gas generating agent being 1000 to 300 C or 1700 to 3000 C. It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the air bag of Taguchi et al. as modified by Taylor et al. by having the combustion temperature of molded articles of a gas generating agent being 1000 to 300 C or 1700 to 3000 C depending upon use of the air bag.

As to claim 10, the limitations of claim 1 is disclosed as described above. Not disclosed are molded articles of a gas generating agent generating at least 1.2 moles per 100g. It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the air bag of Taguchi et al. as modified by Taylor et al. by having molded articles of a gas generating agent generating at least 1.2 moles per 100g depending upon use of the air bag.

Claims 4 and 7 are rejected under 35 U.S.C. 103(a) as being obvious over Taguchi et al. (US 6,485,051 B1) in view of Taylor et al. (US 2003/0145922 A1) in further view of Mendenhall et al. (US 6,143,102).

As to claim 4, the limitations of claim 1 are disclosed as described above. Not disclosed is the gas generating agent having a combustion temperature of 1000 to 1700 C. Mendenhall et

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al., however, discloses a gas generating composition with guanidine nitrate (col. 4 lines 22-34) which would have a combustion temperature of 1000 to 1700 C. It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the air bag of Taguchi et al. as modified by Taylor et al. by using guanidine nitrate as the gas generating agent as disclosed by Mendenhall et al so that basic copper nitrate can be used as the fuel so that the cost is low (see Mendenhall et al. at col. 1 lines 50-60).

As to claim 7, the limitations of claim 1 are disclosed as described above. Not disclosed is the gas generating agent being guanidine nitrate and basic copper nitrate. Mendenhall et al., however, discloses a gas generating composition with guanidine nitrate (col. 4 lines 22-34) and basic copper nitrate (col. 3 lines 60-66). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the air bag of Taguchi et al. as modified by Taylor et al. by using guanidine nitrate and basic copper nitrate as the gas generating agent as disclosed by Mendenhall et al so as to have a low cost (see Mendenhall et al. at col. 1 lines 50-60).

Allowable Subject Matter


Claims 2, 8, 9, and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims; and possibly a terminal disclaimer.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey L. Gellner whose telephone number is 571.272.6887. The examiner can normally be reached on Monday-Friday, 8:30-4:00, alternate.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Poon can be reached on 571.272.6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'J. Gellner', with a stylized flourish at the end.

Jeffrey L. Gellner
Primary Examiner
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